

US ARMY ENGINEER DISTRICT, SACRAMENTO  
CORPS OF ENGINEERS  
SACRAMENTO, CALIFORNIA

SPK-02494  
May 80  
Revised Apr 89

TO: Architect-Engineers and District Personnel:

1. The attached revised guide specification supercedes the previous guide, SPK-2I, ICE PLANT SPRIGGING, dated May 1980, and is for use in the preparation of project specifications.

NOTE: A-E's should read all the TECHNICAL NOTES located at the beginning

of this guide specification and edit the specification accordingly.

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### GENERAL NOTES

1. This guide specification is to be used in the preparation of contract specifications in accordance with the Sacramento District Specification Manual. It will not be made a part of a contract merely by reference; pertinent portions will be copied verbatim into the contract documents.
2. Where numbers, symbols, words, phrases, clauses, or sentences in this specification are enclosed in the following manner: [ ], a choice or modification must be made; delete inapplicable portion(s) carefully. Where blank spaces occur in sentences, insert the appropriate data. Where entire paragraphs are not applicable, they should be deleted completely.

### TECHNICAL NOTES

- A. The section number will be inserted in the specification heading and prefixed to each page number in project specifications.
- B. Paragraphs 1.2, 3.5, 9.2 and 10.2: Fertilizers shall not be specified during periods of prolonged drought. Fertilizers are salts, and must be in solution for the plants to use them. Without adequate water, fertilizer can do more harm than good. Therefore, during drought periods, the first application of fertilizer will be made by the using agency after establishment of the plants.

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cover of the slope. Generally, a planting with 16-inch or 18-inch is adequate.

12-inch centers      =      1,000 plants per 1,000 sq. ft.

16-inch centers      =      565 plants per 1,000 sq. ft.

18-inch centers      =      444 plants per 1,000 sq. ft.

- F. Paragraph 7.1: A minimum number of days for establishment would be 30. Forty-five or sixty days may be required depending on the time of year of the planting.
- G. Paragraphs 9 and 10: For building construction in which the ice plant sprigging is a small portion of the total work, it will normally be included in a lump sum bid item for the entire job and the MEASUREMENT and PAYMENT paragraphs should be deleted. Use these paragraphs only if the bid schedule includes separate bid items for ice plant sprigging.

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## SECTION 02494

### ICE PLANT SPRIGGING

#### 1. MATERIALS:

##### 1.1 Sprigs:

1.1.1 Ice Plant: Sprigs shall be tip cuttings of healthy living stems (stolons) of ice plant (*Carpobrotus chilensis* or *Carpobrotus aequilaterale*) between 10-inches and 12-inches long.

1.2 Fertilizer shall contain a minimum of      % nitrogen,      % phosphate,      % potash, be uniform in composition, dry and free flowing, delivered in containers labeled in accordance with applicable state regulations and bearing the warranty of the producer for the grade furnished.

1.3 Gypsum shall be agricultural grade sulphate of lime containing a minimum of 90% calcium sulphate, uniform in composition, dry and free flowing and delivered to the site in containers bearing the warranty of producer for the grade furnished.

1.4 Mulch material shall be the threshed straw of oats, wheat, barley, rye or rice. Straw containing and excessive quantity of matured seed of noxious weeds, or which is in an advanced stage of decomposition will not be acceptable.

1.5 Water will be furnished in accordance with the SPECIAL CLAUSES from the nearest available government hydrant in the vicinity of the project.

#### 2. INSPECTIONS AND TESTS:

2.1 General: All materials to be used shall be subject to sampling and testing in accordance with standard methods. Equipment to be used for preparation of ground and for handling and placing materials shall be approved by the Contracting Officer before work is started. During the course of work or upon completion of the project, a check of the quantities used will be made against the areas treated and if the minimum rates of application have not been met, the Contracting Officer may require the distribution of additional quantities of these materials to make up the minimum applications specified. The Contracting Officer shall be furnished copies of invoices for all materials. Invoices for fertilizer shall show grade furnished.

#### 3. PREPARATION OF PLANTING BEDS:

3.1 General: The outline or extent of project areas to be planted shall be as indicated on the drawings or as specified by the Contracting Officer prior to planting operations.

3.2 Debris Removal: Prior to sprigging, all wire rubbish and other material which might hinder proper grading and subsequent maintenance shall be removed from the site and disposed of as directed by the Contracting Officer.

3.3 Grading: Grades on the areas to be planted shall be maintained in a true and even condition. Maintenance shall include necessary repairs to previously graded areas. Where the grades have not been established, the areas shall be graded as shown on the drawings and left in an even and firm condition.

3.4 Tillage: The areas shall be thoroughly tilled to a depth of at least 4-in. (except on cut slopes which may be tilled to as 2" minimum depth) by disking, harrowing, or other approved methods until the condition of the soil is acceptable. When conditions are such by reason of excessive moisture or other factors, that satisfactory results are not likely to be obtained, the work will be stopped by the Contracting Officer and shall be resumed only when directed.

3.5 Application of Fertilizer: Fertilizer shall be distributed uniformly at the rate of      pounds per      over the areas to be sprigged and shall be incorporated into the soil to a depth of at least two inches. The incorporation of fertilizer may be a part of the tillage operation.

3.6 Application of Straw Mulch: Prior to sprigging each day, much shall be spread uniformly at the rate of      tons per acre over the entire areas to be sprigged with ice plant that day. Mulch shall be anchored in the soil by means of a tamping roller having plain lugs, slightly tapered and rounded made of not thicker than 1-in. steel plate. Other approved equipment which will secure the mulch firmly in the soil may be used.

4. HARVESTING AND PREPARING SPRIGS FOR PLANTING: Sprigs shall be tipcuttings between 10 and 12 in. long, cut by sharp hand tool, taken from healthy, vigorous plants. Harvesting on the military reservation shall be at a rate commensurate with the density of stand, as directed by the Contracting Officer. Harvesting shall be accomplished between 48 and 96 hours prior to planting in order that a thin callous form over the cut surface of each sprig. Sprigs shall be shaded from the sun during the callousing period but shall not be moistened. If adverse weather or other uncontrollable conditions interrupt the planting operations, an extension of the callousing time may be authorized by the Contracting Officer, provided the sprigs are still viable.

## 5. PLANTING SPRIGS:

5.1 Time of Sprigging: All sprigging work shall be done during the season or seasons which are normal for such work, as determined by weather conditions

and by accepted practices in the general locality of the project. Upon written request of the Contractor and upon written approval, sprigging may be accomplished during off-seasons, provided that the establishment period shall be lengthened as required to produce the expected results at no additional cost to the Government.

5.2 Methods and Rates of Sprigging: Sprigs shall be planted in holes dug by hand pick or dibble, to a depth of at least 4-in. Soil around the planted sprigs shall be firmed in a manner that will not injure the stems. Sprigs shall be planted on      -inch centers in rows      -inches apart, with plants in adjacent rows staggered (      plants per 1,000 square feet). At the Contractor's option, sprigs may be planted with a sprigging machine.

6. PROTECTION: The planted areas shall be protected against traffic or other use by erecting the barricades immediately after sprigging is completed and/or by placing warning signs of a type approved by the Contracting Officer.

## 7. ESTABLISHMENT:

7.1 Period: The Contractor shall be responsible for the proper care of the sprigged areas during the period when the Ice Plants are becoming established. This period shall extend for      days following completion of normal-season planting unless the desired establishment is accomplished in a shorter period of time. The shortening of the period of Contractor's responsibility may be authorized by the Contracting Officer.

7.2 Watering: The sprigged areas shall be kept barely moist to a depth of at least 1-inch below the depth of planting until the termination of the establishment period.

### 7.3 Resprigging:

7.3.1 All dead, non-rooted, or otherwise non-viable sprigs, as designated by the Contracting Officer not later than 30 days following completion of planting, shall be removed and replaced with fresh sprigs. Resprigging shall be completed within 8 days following notification. Resprigged areas shall be maintained as specified in paragraph Watering until the termination of the establishment period specified above.

8. REPAIR: Whenever any portion of the ground surface becomes gullied or otherwise damaged following sprigging, or the sprigs and/or seedlings destroyed, within the period of Contractor's responsibility, the affected portion shall be repaired to re-establish the condition and grade of the soil prior to planting, and shall then be resprigged as specified for initial planting. Repair work to correct damage resulting from faulty operations or negligence on the part of the Contractor shall be done at no additional expense to the Government. Areas repaired as a result of damage occurring through no fault of the Contractor shall be maintained until the termination of the establishment period specified above.

## 9. METHODS OF MEASUREMENT:

9.1 Sprigging, Refertilizing, Resprigging, and Repair: The unit of measurement for sprigging, refertilizing, resprigging, or repair shall be the acre. The area to be paid for shall be the acreage actually sprigged, refertilized, resprigged, or repaired as specified, computed to the nearest 1/10 of an acre.

9.2 Fertilizer: The unit of measurement for fertilizer shall be the 2,000-pound ton. The tonnage to be paid for shall be the tonnage actually placed as specified.

9.3 Water: The unit of measurement for water shall be 1,000-gallons. The gallonage to be paid for shall be the number of 1,000-gallon units actually delivered and applied as specified.

9.4 Soil for Repairs: The unit of measurement for soil needed for repair work shall be the cubic yard. Measurement will be made in the vehicle just prior to dumping on the site.

## 10. PAYMENT:

10.1 Sprigging will be paid for at the contract unit price per acre, under Item No. , " ", which payment shall constitute full compensation for all work covered by this section of the specifications, except as specified below.

10.2 Fertilizer and gypsum will be paid for at the respective contract unit price per ton, under Item No. , " ", which payment shall constitute full compensation for furnishing and delivering fertilizer or gypsum to the site, including necessary storage.

10.3 Water will be paid for at the contract unit price per 1,000-gallon unit, under Item No. , " ", which payment shall constitute full compensation for furnishing and applying water as specified.

10.4 Refertilizing, resprigging, and repair will be paid for at the respective contract unit price per acre, under Item No. , " ", which payment shall constitute full compensation for refertilizing, resprigging, or repair, as specified, except that fertilizer or soil used for such work will be paid for at the respective contract unit price for fertilizer or gypsum. No payment will be made for materials or operations for refertilizing, resprigging, or repair resulting from faulty operations or negligence on the part of the Contractor.

11. CONSTRUCTION QUALITY CONTROL: Attention is directed to SECTION: CONSTRUCTION QUALITY CONTROL which requires the Contractor to perform quality control inspection, testing, and reporting.

\* \* \* \* \*

- REMINDER -

Located at the front of these specifications are the Contract Clauses, Special Clauses and Division I GENERAL REQUIREMENTS of the Technical Specifications, which apply to every aspect of this contract including the work in this section whether performed by Prime Contractor, subcontractor, or supplier.